

AMENDMENTS TO THE CLAIMS

Please cancel claim 20 without prejudice:

1. (Previously Presented) A ring configuration method in a mesh network consisting of a plurality of nodes, each of said nodes having a cross-connecting function, wherein a ring network (herein after called a ring) comprising a working path and a stand-by path is configured dynamically in response to a request for setting said working path,

wherein:

said mesh network is a WDM (Wavelength Division Multiplex)-based optical fiber communication network,

if a new ring to be configured is identical to an existing ring using the same wavelength as that of said new ring, the same node numbers as node numbers locally assigned to nodes in said existing ring are assigned to the corresponding nodes to each node of said existing ring in said new ring, and

if said new ring crosses or is adjacent to said existing ring using in the same wavelength, local node numbers different from those of the nodes in said existing ring are assigned to the nodes in said new ring.

2. (Original) The ring configuration method according to claim 1, wherein a ring map containing at least information about the link of said ring, information about input/output ports at each of nodes along channels constituting said ring, and local node

numbers (addresses) locally assigned to the nodes in said ring is provided to the nodes constituting said ring.

Claims 3-5. (Cancelled).

6. (Previously Presented) The ring configuration method according to claim 1, wherein if a new ring to be configured is identical to or crosses an existing ring using the same wavelength of the new ring, a section of a stand-by path that is common to both of the rings is shared between the rings.

7. (Previously Presented) The ring configuration method according to claim 1, wherein a network management system centrally performs network map generation, path calculation, path setting, generation of a ring map, and the provision of said ring map to each node, by collecting information about connections between nodes and available channels.

8. (Previously Presented) The ring configuration method according to claim 1, wherein each node uses a routing protocol and signaling protocol to perform in a distributed manner network map generation, path calculation, path setting, and generation of a ring map, by collecting information about connections between nodes and available channels.

9. (Original) A failure recovery method in a mesh network using the ring configuration method according to claim 1, wherein, if a failure occurs in said working path,

nodes perform signaling for failure recovery to cause traffic to switch to said stand-by path to recover the network from the failure.

10. (Previously Presented) A node address assignment method that dynamically configures a new ring network including a working path and a standby path in response to a request for setting the working path in a mesh network consisting of a plurality of nodes, each of said nodes having a cross-connecting function, wherein: if the new ring to be configured is identical to an existing ring, the same node numbers (addresses) as those assigned locally to nodes in said existing ring are assigned to the corresponding nodes to said existing ring in said new ring, and wherein, if said new ring crosses or is adjacent to said existing ring, local node numbers different from those of the nodes in said existing ring are assigned to the nodes in said new ring.

11. (Cancelled).

12. (Previously Presented) A node address assignment method that dynamically configures a new ring network (ring) including a working path and a standby path in response to a request for setting the working path in a mesh network consisting of a plurality of nodes, each of said nodes having a cross-connecting function, wherein if the new ring to be configured crosses or is adjacent to said existing ring, local node numbers different from those of the nodes in an existing ring are assigned to the nodes in the new ring, and wherein if the new ring to be configured is identical to an existing ring, the same node numbers (addresses) as those assigned locally to nodes in said existing ring are assigned to the corresponding nodes to said existing ring in said new ring.

13. (Cancelled).

14. (Original) The node address assignment method according to claim 10, wherein said mesh network is a WDM (Wavelength Division Multiplex)-based optical fiber communication network.

15. (Cancelled).

16. (Previously Presented) A node device in a mesh network configured in such a way that a ring network (ring) consisting of a working path and a stand-by path is dynamically configured in response to a request for setting said working path, said node device comprising a ring map including at least information about the link of said ring, information about input/output port at each node of channels constituting said ring, and a local node number (address) assigned locally to each node constituting said ring, wherein said mesh network is a WDM (Wavelength Division Multiplex)-based optical fiber communication network, and wherein, if a new ring is identical to an existing ring using the same wavelength, in said ring map, the same node numbers as node numbers locally assigned to nodes in said existing ring are assigned to the corresponding nodes to said existing ring in said new ring, and wherein, if a new ring crosses or is adjacent to said existing ring using the same wavelength, in said ring map, local node numbers different from those of the nodes in said existing ring are assigned to the nodes in said new ring.

Claims 17-19. (Cancelled).

20. (Cancelled).

21. (Original) The node device according to claim 16, wherein each node uses a routing protocol and signaling protocol to perform in a distributed manner generation of the network map, path calculation, path setting, and generation of said ring map by collecting information about connections between nodes and available channels.